

**Amendments to the Drawings:**

The attached drawing sheet includes changes to Fig. 1. This sheet replaces the original sheet including Fig. 1.

Fig. 1 has been amended to label “indications” with a reference number 110. Fig. 1 has also been amended to remove label 122, which is not referred to in the specification.

Attachment: Replacement Sheet

## REMARKS

Claims 1-38 were pending in the present application at the time of the Office Action.

The declaration stands objected to by the Examiner.

The specification stands objected to by the Examiner.

The drawings stand objected to by the Examiner.

Claims 12, 14, 19 and 31 stand objected to by the Examiner because of informalities.

Claims 1-38 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,467,052 to Kaler et al. ("*Kaler*").

For at least the reasons stated below, the Applicants respectfully traverse the above rejections and objections and submit that all pending claims are allowable.

Turning first to the objections to the declaration, the Applicants respectfully traverse these objections. A substitute declaration is filed herewith. The substitute declaration addresses all points raised on page 2 of the Office Action, including having a statement that the person making the declaration believes the named inventors to be the first inventors of the claimed subject matter, fixing a typographical error in the title, identifying the application by serial number and filing date, and properly identifying the mailing address of each inventor as the same as the residence address. Accordingly, the Applicants submit that the objection to the declaration has been overcome.

Turning next to the objections to the drawings, the Applicants respectfully traverse these objections. Figure 1 stands objected to for including reference numbers not mentioned in the description, and for having a feature labeled "indications" that is not referred to in the description. A replacement sheet showing an amended Figure 1 is filed herewith.

The Office Action objected to Figure 1 having reference numbers 120, 121 and 122, which were not referred to in the textual description. Amended Figure 1 removes reference number 122, and paragraph [21] of the description has been amended to mention the memory 120 and processor 121. Also, the Office Action objected to Figure 1 for having an "indications" output from the Communication Device 101, which was not referred to in the textual description. Amended Figure 1 attaches reference number 110 to the "indications" output, and paragraph [20]

of the description has been amended to mention the "indications" output. Accordingly, the Applicants submit that the objections to the drawings have been overcome.

Turning next to the objections to the specification, the Applicants respectfully traverse these objections. Section 4, of the Office Action states various objections to various paragraphs of the specification, each of which has been addressed by the specification amendments included with this response.

Paragraph [28] has been amended to change "playback software instructions 204" to "playback software 204".

Paragraphs [25], [35], [36] and [37], which present an ADSL modem as an example of the communication device 101, have been amended to change "ADSL modem" to either "communication device" or "communication device 101 (e.g., an ADSL modem)".

Paragraphs [35], [36] and [37], which present a hard disk as an example of the memory device 102, have been amended to change "hard disk" to either "memory device" or "memory device 102 (e.g., a hard disk)".

Paragraphs [36] and [37], which present a PC as an example of the computer 202, have been amended to change "PC" to either "computer" or "computer 202 (e.g., a PC)".

Section 5 of the Office Action states an objection to the use of trademarks WINDOWS and LINUX, without proper trademark designation (e.g., complete capitalization). Paragraphs [25] and [34] have been amended to capitalize the WINDOWS and LINUX trademarks and to associate such trademarks with the appropriate generic terminology "operating system".

For the aforementioned reasons, the Applicants submit that the various objections to the specification have been overcome.

Turning next to the objections to claims 12, 14, 19 and 31 because of informalities, the Applicants respectfully traverse these objections. Each of such claims has been amended in accordance with the amendments suggested in section 6 of the Office Action. Thus, the Applicants submit that such objections have been overcome.

Turning next to the rejections of claims 1-38 under 35 U.S.C. § 102(e) as being anticipated by *Kaler*, the Applicants respectfully traverse these rejections.

Claim 1, as currently amended, is directed to a system for analyzing real-time operation of a modem, and states "a modem comprising a recording module, wherein the recording module

causes the recording of input information that is input to the modem during real-time operation of the modem; and a playback device comprising a model of the modem that the playback device executes according to the recorded input information.”

The Applicants submit that *Kaler* does not disclose “a modem comprising a recording module, wherein the recording module causes the recording of input information that is input to the modem during real-time operation of the modem; and a playback device comprising a model of the modem that the playback device executes according to the recorded input information.” For at least this reason, the Applicants submit that claim 1 is allowable over *Kaler* as are all claims depending therefrom, including claims 2-8. The Applicants also submit that claims 2-8 are independently allowable.

For example and without limitation, dependent claim 6, as currently amended depends from claim 1 and further states “wherein the model of the modem comprises a bit-exact software model.” The Office Action states that *Kaler* discloses “that the model of the communication device is a bit-exact software model (*see Column 32, Lines 57-62; and Column 35, Lines 36-47*).” The Applicants respectfully disagree with this characterization of *Kaler*. For example, col. 32, lines 57-62 and col. 35, lines 36-47 discuss an application model being dynamically maintained “as new diagram elements are identified” where “blocks are dynamically added, removed, and moved, and the interconnections between them are dynamically changed to reflect changing conditions in the execution of the application”. The Applicants respectfully submit that dynamic display of real-time conditions of an application does not teach a bit-exact software model of anything, much less the claimed “model of the modem” comprising “a bit-exact software model”. For at least this additional reason, the Applicants respectfully submit that claim 6, as currently amended, is allowable over *Kaler*.

Also for example, dependent claim 7, as currently amended, depends from claim 1 and further states “wherein the playback device comprises hardware modeling components of the modem.” The Office Action states that *Kaler* discloses “that the model of the communication device comprises a device substantially similar to at least a portion of the communication device (*see Figure 13; and Column 32, Lines 28-31*)”. The Applicants respectfully disagree with this characterization of *Kaler*. For example, Figure 13 and col. 32, lines 28-31 show and discuss a screen print of an animated application model to show the structure and activity of an application

whose performance is being studied. The Applicants respectfully submit that such an animated application model does not show that any model includes “a device substantially similar to at least a portion of the communication device” or a device substantially similar to any device, including the claimed modem. More specifically to claim 7, the Applicants submit that a block representation on a screen of a control and display station does not show the claimed playback device comprising hardware modeling components of the modem. For at least this additional reason, the Applicants respectfully submit that claim 7, as currently amended, is allowable over *Kaler*.

Claim 9, as currently amended, is directed to a modem comprising “a first input that receives information from a first device; a second input that receives information from a second device with which the first device is communicating using the modem; and a recording module communicatively coupled to the first input and the second input that causes input information arriving at one or both of the first input and the second input during real-time operation of the modem to be recorded for subsequent non-real-time analysis.”

The Applicants submit that *Kaler* does not disclose a modem comprising “a first input that receives information from a first device; a second input that receives information from a second device with which the first device is communicating using the modem; and a recording module communicatively coupled to the first input and the second input that causes input information arriving at one or both of the first input and the second input during real-time operation of the modem to be recorded for subsequent non-real-time analysis.” For at least this reason, the Applicants submit that claim 9, as currently amended, is allowable over *Kaler* as are all claims depending therefrom, including claims 10-13. The Applicants also submit that claims 10-13 are independently allowable.

For example and without limitation, claim 10, as currently amended, depends from claim 9 and further states that the modem comprises “a command input that receives modem control commands from the first device”, and “wherein the recording module further causes modem control commands arriving at the command input during real-time operation of the modem to be recorded.” The Applicants submit that *Kaler* does not discuss modem control commands, nor the recording of modem control commands, nor a recording module of a modem causing modem control commands to be recorded for subsequent non-real-time analysis. Accordingly, for at

least this additional reason, the Applicants submit that claim 10, as currently amended, is allowable over *Kaler*.

Also for example, claim 11, as currently amended, depends from claim 9 and further states “wherein the first device is a computer system, and wherein the recording module [of the modem] causes the input information arriving at the first input and the second input during real-time operation of the modem to be recorded on a memory device of the computer system”. The Applicants submit that *Kaler* does not teach a recording module of a modem causing information arriving at the modem to be recorded to a computer from which the modem receives information. Thus, for at least this additional reason the Applicants submit that claim 11, as currently amended, is allowable over *Kaler*.

Also for example, claim 12, as currently amended, depends from claim 9 and further states “wherein the recording module causes input information arriving at the first input and the second input to be communicated to a networked computer communicatively coupled to the modem over a communication network and recorded on a memory device of the networked computer”. The Applicants submit that *Kaler* does not teach a recording module of a modem causing information arriving at the modem to be recorded anywhere, much less on a memory device of a network computer communicatively coupled to the modem over a communication network. Thus, for at least this additional reason the Applicants submit that claim 12, as currently amended is allowable over *Kaler*.

Independent claim 14 and dependent claims 15-18 share various characteristics with independent claim 9 and dependent claims 10-13 discussed previously. For at least reasons similar to those stated previously with regard to claims 9-13, the Applicants submit that claims 14-18 are allowable over *Kaler*.

Claim 19, as currently amended, is directed to a non-real-time playback environment for analyzing real-time performance of a modem, the environment comprising “a memory comprising input information that was obtained from a modem during real-time operation of the modem; and a playback module communicatively coupled to the memory, the playback module comprising a model of the modem that the playback module executes according to the input information in the memory”.

The Applicants submit that *Kaler* does not disclose a non-real-time playback environment for analyzing real-time performance of a modem, the environment comprising “a memory having input information that was obtained from a modem during real-time operation of the modem; and a playback module communicatively coupled to the memory, the playback module comprising a model of the modem that the playback module executes according to the input information in the memory”. For at least this reason, the Applicants submit that claim 19, as currently amended, is allowable over *Kaler* as are all claims depending therefrom, including claims 20-26. The Applicants also submit that claims 20-26 are independently allowable.

For example and without limitation, claim 21, as currently amended, depends from claim 19 and further states that the input information comprises “data and modem control commands sent from a computer to the modem.” The Applicants submit that *Kaler* does not discuss obtaining modem control commands during real-time operation, nor executing a playback module according to such obtained modem control commands. Accordingly, for at least this additional reason, the Applicants submit that claim 21, as currently amended, is allowable over *Kaler*.

Also for example, claim 23, as currently amended depends from claim 19 and further states that the model of the modem “comprises a bit-exact software model of the modem.” For at least additional reasons similar to those discussed previously with regard to claim 6, the Applicants submit that claim 23, as currently amended, is allowable over *Kaler*.

Claim 27, as currently amended, is directed to a method for analyzing real-time operation of a modem, where the method comprises “operating the modem in real-time, the modem comprising a recording module; utilizing the recording module to cause the recording of input information input to the modem during real-time operation of the modem; and executing a model of the modem, where the model is responsive to the recorded input information”.

The Applicants submit that *Kaler* does not disclose “operating the modem in real-time, the modem comprising a recording module; utilizing the recording module to cause the recording of input information input to the modem during real-time operation of the modem; and executing a model of the modem, where the model is responsive to the recorded input information”. For at least this reason, the Applicants submit that claim 27 is allowable over *Kaler* as are all claims

depending therefrom, including claims 28-38. The Applicants also submit that claims 28-38 are independently allowable.

For example and without limitation, claim 34, as currently amended, depends from claim 27 and further states that the model of the modem “comprises a bit-exact software model of the modem”. For at least additional reasons similar to those discussed previously with regard to claim 6, the Applicants submit that claim 34, as currently amended, is allowable over *Kaler*.

As a final matter, the Office Action makes various statements regarding former claims 1-38 and *Kaler* that are now moot in light of the previous comments and/or amendments. Thus, the Applicants will not address such statements at the present time. However, the Applicants expressly reserve the right to challenge such statements in the future should the need arise (*e.g.*, if such statements should become relevant by appearing in a rejection of any current or future claim).

In summary, the Applicants submit that claims 1-38 are allowable over *Kaler* and in condition for allowance. Accordingly, the Applicants courteously solicit a Notice of Allowability with respect to all pending claims. The Applicants take this opportunity to respectfully request an Examiner Interview to discuss the pending claims, *Kaler* and the present response. In particular, the Applicants request such an Examiner Interview prior to any final rejection of the pending claims. The Applicants invite the Examiner to contact the undersigned at 312-775-8000 to arrange such an interview at the Examiner’s convenience. Additionally, if the Examiner has any further questions, the Applicants invite the Examiner to contact the undersigned to discuss such questions.



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Resp. to Office Action of Aug. 29, 2006

The Commissioner is hereby authorized to charge additional fees or credit overpayments to the deposit account of McAndrews, Held & Malloy, Account No. 13-0017.

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Respectfully submitted,

/Shawn L. Peterson/  
Shawn L. Peterson  
Reg. No. 44,286  
Attorney for the Applicants

McANDREWS, HELD & MALLOY, LTD.  
500 W. Madison, Suite 3400  
Chicago, IL 60661  
Telephone: (312) 775-8000